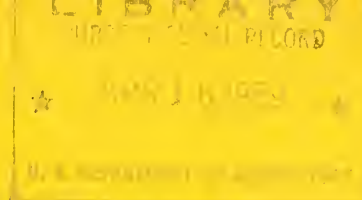


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INVENTORY MANAGEMENT BY SELECTED RETAIL FARM SUPPLY CO-OPS AREA V

BY JOHN M. BAILEY

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Joseph G. Knapp, Administrator

The Farmer Cooperative Service conducts research studies and service activities of assistance to farmers in connection with cooperatives engaged in marketing farm products, purchasing farm supplies, and supplying business services. The work of the Service relates to problems of management, organization, policies, financing, merchandising, product quality, costs, efficiency, and membership.

The Service publishes the results of such studies; confers and advises with officials of farmer cooperatives; and works with educational agencies, cooperatives, and others in the dissemination of information relating to cooperative principles and practices.

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HIGHLIGHTS

For this report, eight retail farm supply cooperatives in Tennessee, Alabama, Mississippi, and Arkansas provided information about their inventory operations for 5 years -- 1952-53 through 1956-57.

Supply volume of the cooperatives ranged from a low of \$141,946 to a high of \$1,107,624 for the 1956-57 fiscal year. Volume was below \$400,000 in six of the eight associations. Average volume increased about 28 percent over the 5-year period.

Almost 80 percent of total volume came from feed, seed, and fertilizer items. Fertilizer represented more than a third of total volume, feed about 25 percent, and seed 13 percent, with a variety of other commodities making up the balance of commodities handled.

Volume of individual commodities fluctuated considerably in individual associations. While fertilizer represented more than 50 percent of total volume in three associations, it represented less than 20 percent of the total in another three. Feed in one association accounted for 57 percent of its total volume.

Stock Maintenance

In all but one association managers assumed responsibility for purchasing supplies. They relied upon requests of patrons and advice from boards of directors in deciding upon new lines to carry. However, their own judgment was of primary importance in making the decision.

Practices used by managers to minimize inventories in relation to sales included: (1) Purchasing in carload lots; (2) pooling with other cooperatives; (3) consignment buying; and (4) use of an association-owned truck to haul supplies from the wholesale and make delivery direct to the farm.

Factors that helped determine the size of normal inventory were storage space, distance from source of supply, and available capital.

Intervals for taking inventory varied from monthly to once each 6 months. Directors assisted with inventorying in four associations.

Stock Movement

Techniques employed to increase distribution of supply inventories included: (1) Employment of retail fieldmen to contact farmers on their farms; (2) use of TV and newspaper advertising; and (3) car-door and farm delivery of feed and fertilizer.

Wholesale cooperatives assisted locals in selling techniques such as advertising, display, and seasonal promotion programs.

The managers of these local associations did not report any problems with "slow" items. Swap sessions on a district basis and circulation of lists of such items by wholesale cooperatives were among the practices used to facilitate the movement of slow-moving items.

Size of Inventory

Inventories ranged from a low of about \$11,000 to a high of a little more than \$96,000. Five associations had year-end inventories of less than \$21,000. Inventories at the close of the 1957 fiscal year were 28 percent higher than 5 years earlier. Average monthly inventories -- taken by five of the associations -- were about 120 percent of their 1957 fiscal year-end inventories.

Inventories for all associations fluctuated considerably over the year -- ranging from a low of 82 percent of the 12-month average in July to a high of 123 percent of average in February.

Year-end inventories averaged about 16.4 percent of total assets in 1956-57. The percentage fluctuated from a low of 6 percent to a high of 27.1 percent for the seven associations where asset data were available.

Inventory Turnover

Turnover based on total sales and average inventories was highest in fertilizer with 26 times a year, followed by feed with 18 times and seed with 12 times. Other farm supplies turned an average of only seven times a year. These other commodities represented only 20 percent of sales, but they represented almost 40 percent of inventory.

Suggestions for Better Inventory Management

Studies have shown that a good job of managing inventories is related to a continuing review of practices coupled with determined efforts to make improvements. Management should appraise its inventory operations periodically -- directing attention to the following considerations:

1. Recognize Your Patrons' Needs. - Keep abreast of demands for new products and of different uses for old ones resulting from impacts of agricultural technology. Have a grasp of the total agriculture served by your association as to type, status, and trends. Make farm visits and patron surveys and keep close contact with the Extension Service and its recommendations.
2. Know Your Merchandise. - This can be done through records or visual inspection. A combination of the two methods offers many advantages. In addition to quantity and quality of merchandise, its location and turnover are important. Review inventory periodically for items of stock to be reduced or eliminated and consider other items that might be stocked.

3. Keep Adequate Records. - Maintain records of inventory and sales by commodity groups. The degree of breakdown will vary with associations. Inventory volume and turnover rates for major commodity groups cannot be determined without detailed records.

4. Utilize Facilities As Fully As Possible. - Appraise use of storage and display facilities frequently. A change of location or shift in size of display may be worthwhile. Mechanization should be considered and stock handling minimized.

5. Watch Inventory Costs. - It costs to carry inventory. Interest, shrinkage, obsolescence, and possible price declines are the principal costs. Post-season discounts often are more economical than year-to-year carryovers. Specialty items may lead to overstocking. Consider customer orders when stocking new items.

6. Develop Support of Employees. - Employee performance is tied in with knowledge of job and responsibility. See that the essentials of each job are described and that each employee understands his responsibilities. Discussions with employees about inventory problems will increase their awareness of inefficiencies and opportunities for improvement. Management of inventories in present-day cooperatives is more than a one-man job.

INVENTORY MANAGEMENT BY
SELECTED RETAIL FARM SUPPLY CO-OPS

(Area V - Tennessee, Alabama, Mississippi, and Arkansas)

By John M. Bailey
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The functions of a farm supply cooperative are to purchase, receive, store, and distribute supplies to patrons. The manner in which each of these functions is performed will have much to do with the efficiency of the farm-supply operation. Inventory management describes the activities associated with these supply services; thus inventory management is an important aspect of operating a successful retail business.

Distributors of farm supplies cannot meet production needs of patrons without adequate facilities and stocks of goods. Each year cooperatives add new products and their capital requirements for facilities and inventory increase accordingly. Between 20 and 25 percent of total assets may commonly be required for inventory purposes. The manner in which this capital is used has much to do with operating efficiency.

This places considerable responsibility on management in securing efficient use of facility and inventory capital in addition to determining the type, quantity, and quality of commodities to handle.

PURPOSE AND METHOD OF STUDY

This study is the fifth in a series Farmer Cooperative Service is making of inventory management by general farm supply cooperatives in various geographic areas of the United States. It endeavors to do the following:

1. Determine purchasing policies and practices that affect inventory acquisition;
2. Ascertain successful practices for storing and controlling inventories and reducing shrinkage in merchandise;
3. Determine principal sales methods affecting inventory turnover, especially those for slow-moving merchandise; and
4. Recommend successful standards and methods for inventory management.

Note: Appreciation is expressed to officials of the farmer cooperatives who provided information on their credit operations, and to J. Warren Mather, Chief, Farm Supplies Branch, Farmer Cooperative Service, for assistance in planning and developing this study.

A review of the inventory practices of the cooperative selected for study should be helpful to other associations with similar overall operations.

This study included eight local associations in Tennessee, Alabama, Mississippi, and Arkansas -- designated as Area V. These associations were affiliated with wholesale cooperatives and carried similar diversified lines of production supplies.

The associations were selected on the basis that their management of inventories was better than average. Criteria for judging such operations included: (1) Inventory turnover ratios; (2) overage and shortage data; (3) evaluation of inventory acquisition and control practices in the local cooperatives by district fieldmen and department heads of the regional associations. All but one of these associations were included in a companion credit study. 1/

General managers of the selected associations provided information for the study through personal interviews.

VOLUME AND TYPE OF SUPPLIES HANDLED

Supply volume in the eight associations in this study ranged from a low of \$141,946 to a high of \$1,107,624 for the 1956-57 fiscal year. Volume was below \$400,000 in six of the eight associations (table 1). The average supply volume of the eight cooperatives was up 28 percent over that 5 years earlier.

Almost 80 percent of the total volume of these associations came from feed, seed, and fertilizer items, with fertilizer representing more than a third and feed about 25 percent of the total (table 1). Hardware items, building supplies, and general farm supplies were not itemized in detail by all associations so they have been classified together as "other".

The makeup of volume among the associations varied considerably. For instance, in three associations fertilizer represented more than 50 percent of total volume while in another three it represented less than 20 percent of total volume. Feed accounted for at least a third of total volume in three associations. In one of the three, feed represented 57 percent of total volume. In two, the volume was diversified to the extent that the "other" category represented almost 40 percent of total volume.

1/ Bailey, John M. Credit Control in Selected Retail Farm Supply Cooperatives - Area V, Service Report 41, Farmer Cooperative Service, U. S. Department of Agriculture, January 1959.

Table 1. - Total supply volume and proportion of total in selected commodity groups for eight local farm supply cooperatives in the South,^{1/} 1956-57

Association :		:Proportion of total volume by commodity groups				
code	Sales	Feed	Seed	Fertilizer	Other	
	<u>Dollars</u>			<u>Percent</u>		
1	\$ 231,743	<u>2/</u>	<u>2/</u>	4.4	3.6	
2	141,946	14.8	17.7	52.7	14.8	
3	599,948	47.8	5.4	27.1	19.7	
4	299,216	5.4	18.5	65.3	10.8	
5	333,887	1.7	19.8	61.6	16.9	
6	262,947	57.0	9.9	16.1	17.0	
7	1,107,624	33.1	9.1	17.0	40.8	
8	345,637	16.8	12.1	32.8	38.3	
Average <u>3/</u>	---	25.2	13.2	34.6	20.2	

1/ Tennessee, Alabama, Mississippi, and Arkansas.

2/ Feed and seed combined.

3/ Average percentages do not add to 100 because volume data not available in one association.

ACQUIRING INVENTORIES

Many inventory problems may be minimized or eliminated by the wise purchase of farm supplies, with special attention given to kind and amount. A description of some of the procurement practices of the associations in this study will provide a better understanding of the data presented and also help other cooperatives appraise their own operations.

Responsibility for Purchasing

Managers handled the purchase of supplies in all of the associations but one; there the assistant manager did all of the purchasing except for feed ingredients.

In deciding upon new lines to carry, managers relied upon requests of patrons and advice from the boards of directors. In general, managers recognized their own decisions as being of primary importance. Request of patrons for items not normally carried by associations were maintained in want books. Then, depending upon the number of requests, the cooperative ordered items individually or stocked them when demand justified the latter action.

All managers depended upon acquaintance with, or inspection of, stock on hand to determine the time for re-ordering merchandise and the amount to purchase. One manager, who took inventory monthly, relied considerably upon these inventories in determining what and how much to order.

Procurement Methods

Managers of the cooperatives surveyed used a variety of purchasing practices to minimize the volume of inventories and to hold unit costs at low levels. Some associations bought feed, fertilizer, petroleum, and building supply items in carload lots.

All but two pooled orders and purchased supplies with another cooperative. Commodities bought in this manner included salt, seed, hardware, tires, batteries, and automotive accessories. Only two associations reported buying items on consignment. Such items were farm machinery and fertilizer. Hardware items were the principal supplies bought on the basis of customer orders.

In ordering seasonal items, one manager made an initial order equal to about one-third of the previous year's sales, expecting to reorder as the seasonal items were removed from stock. He stressed the value of close contact with the county Agricultural Stabilization and Conservation Office to learn of expected needs for seed and fertilizer by participating farmers.

Another manager was confident that weekly trips to the wholesale with the association's truck to acquire feed and fertilizer had done much to improve inventory turnover and operating efficiency of the cooperative.

Source and Amount of Supplies

The cooperatives in this study were able to obtain a major part of their inventories from their statewide wholesale associations. Hardware items, feed ingredients, and special seeds, such as grains and grasses, however, were among those items not always available at wholesale cooperatives. Only one manager reported a duplication of inventory items because of purchases from more than one supplier. He reported buying some supplies from other than cooperative sources to keep posted on price and product developments.

Two associations reported carrying two quality levels of some building and automotive supply items.

Factors that helped to determine the amount of normal or usual inventory included available storage space, distance from source of supply, and available capital. Except for these three principal factors, managers generally adhered to the minimum-maximum principle; that is, trying to have enough on hand to meet demand without being overstocked.

Available storage space was considered the most limiting factor, especially in the inventory of fertilizer. Storage space, however, must be considered along with distance from supply sources. An association within a short-haul distance of a wholesale could operate with a comparatively small storage area and would be less likely to mention storage space as the most limiting factor. On the other hand, an association some distance from its wholesale source of supply would be apt to list available storage space as a more significant factor.

Restrictions on the amount of capital available for inventory applied mostly to hardware items and automotive accessories.

MAINTAINING INVENTORIES

After an inventory has been acquired, attention must be given to stock control. This includes systematic receiving routine, keeping adequate stock records, and proper care of physical stock. Periodic counting of stock is important because it involves organizing the inventory and observing its location and condition. Also, orderly housekeeping and efficient facility layout aid in improving stock control.

Inventorying

Intervals for taking inventory varied from once a month to once each 6 months. Three associations took monthly inventories; three other associations took them every 2 months; and two associations made a complete inventory every 6 months.

Employees helped take inventories in all the associations. Directors helped with inventorying at four. In one, employees took monthly inventories, and auditors and board members made the inventory at 6-month intervals.

One manager used a form designed with many columns to record the results of several inventories. This provided a rather complete picture of stock status and also saved the time of writing down item descriptions for each inventory.

Only one manager preferred to take an inventory less often than every 2 months; he preferred one quarterly. Managers taking inventories every 2 months generally expressed the desire to have them monthly but thought the cost of taking such inventories exceeded the benefits. One manager inventoried monthly at one time but had gone to once every 2 months to save expenses. He was satisfied with this practice. The manager who took inventory every 6 months believed fast-moving items should be counted more often, preferably once a month. He thought an interval of 6 months too long because it did not enable him to spot inventory differences in time to take proper remedial action.

There was no uniform pattern for pricing inventories. Two associations used market figures; three others used cost or market figures, whichever were lower; while another used only cost figures. A combination of two or more bases was used occasionally. Cost or market, whichever was less, was used by most associations as this helped to keep prices in line with competition. One manager used cost because it was the simplest and was not subject to errors of judgment.

Pricing inventory was usually done by managers, although auditors were responsible at one association, and representatives of the affiliated wholesale cooperative priced inventories at another local association.

Shrinkage

None of the associations considered shortages as important factors in accounting for differences in inventory. All associations used some form of paper transaction to take care of stock items used within the internal operation. This procedure usually consisted of writing a regular sales ticket and charging it to the department concerned.

MOVING STOCK

The ultimate objective of a supply cooperative is to get needed supply items into the hands of patrons. The practices employed to do this have considerable bearing on inventory size, turnover, and control.

Distribution Methods

Inventory turnover can be improved by reducing the inventory or by adopting aggressive plans to increase volume. Most managers in the past few years have taken steps to increase their sales efforts. In three associations, personnel from the cooperative made farm contacts with patrons and other farmers. In one, the manager made farm visits during the slack seasons. In another, a fieldman primarily interested in broiler and other feed items maintained personal contacts. One association had a retail fieldman on the road most of the time taking orders for merchandise.

Local newspaper ads were used exclusively by one association, and two relied mainly upon TV and radio advertising. One of the managers using TV and radio advertising used radio spot ads to promote sales of seasonal items. He concentrated on getting his sales message of seasonal items across to the listening public by obtaining space for as many radio spot ads as possible.

Only two associations used price reductions as a method of boosting sales. They were given on feed as quantity discounts. Fertilizer was the only item that was given a pre-season discount as this fitted in well with the wholesale cooperatives' problem of moving plant production into distribution channels in order to keep plants in operation. Discounts of up to \$6 a ton were given on fertilizer for delivery taken before December.

Car-door and farm delivery of feed and fertilizer were important practices for moving these items with a minimum of handling labor and use of association facilities. At least three associations were within convenient hauling distance of feed and fertilizer plants; and in these instances, commodities were taken directly from the plant and delivered to the farmer.

None of the cooperatives in this study had plans for employee sales bonuses or commissions.

Slow-Moving Items

Keeping an adequate stock of goods suited to patrons' needs is a universal problem of farm supply cooperatives. They occasionally purchase some items at the wrong time or in amounts above local demands. It is one problem to recognize items that may become "white elephants" in inventory and another to provide stock of adequate variety and quantity.

No special techniques were reported for spotting slow-moving items. Visual inspection and general acquaintance with stock were reported as the only means for recognizing them. The importance of keeping commodities stacked uniformly so that oldest merchandise can be moved out first, especially in feed, was stressed by one manager as important in minimizing the amount of slow-moving stock.

Three associations had run special sales to move slow items. These sales covered paint and hardware items along with some automotive supplies. Sale prices were usually set to cover purchase costs. One of the associations that did not have specific sales for these types of items marked the prices down upon first noting a lack of demand.

Wholesale cooperatives maintained some types of programs to help locals move slow or unwanted items. These programs included manager sessions at regional or area meetings where such items were exchanged. One wholesale cooperative circulated lists of slow-moving items so that member associations would know of their availability.

ASSISTANCE BY REGIONAL COOPERATIVES

All but one of the locals surveyed gave credit to regional wholesale associations for helping improve inventory management in local associations. While no single activity of the wholesale was recognized as most important, some associations gave their wholesale more credit for assistance than others.

One association gave the wholesale credit for assisting in at least three different programs, and three other associations listed only one activity of the wholesale as being helpful in inventory management. Assistance with advertising and selling techniques, calling attention to stock status and better storage practices, and suggestions of new lines to carry were all considered important wholesale contributions.

INVENTORY SIZE

Farm supply inventories at the end of the associations' fiscal years ranged from a low of \$11,028 to a high of \$96,068. Five associations had total year-end inventories of less than \$21,000 (table 2). Inventories of the eight cooperatives averaged 28 percent higher than 5 years earlier. Thus, they were kept in the same relationship with sales during the period.

Table 2. - Year-end inventories and proportion of total in selected commodity groups in eight local farm supply cooperatives in the South, 1956-57

Association : Year-end :		Proportion of inventory by commodity			
code	: inventory :	Feed	: Seed	: Fertilizer :	Other
<u>Percent</u>					
1	\$15,019	<u>1/</u>	<u>1/</u>	1.9	13.4
2	13,672	7.5	30.3	36.9	25.3
3	20,273	28.7	5.0	34.0	32.3
4	32,830	16.8	24.5	20.6	38.1
5	11,028	2.2	20.1	42.0	35.7
6	20,692	26.1	17.3	1.9	54.7
7	96,068	23.9	16.9	6.2	53.0
8	33.141	12.1	10.1	14.0	63.8
Average <u>2/</u>	---	<u>16.8</u>	<u>17.7</u>	<u>19.7</u>	<u>39.5</u>

1/ Feed and seed combined.

2/ Average percentages do not add to 100 because inventory data not available in one association.

Inventories of feed, seed, and fertilizer represented about 60 percent of total volume. While the "other" farm supplies category accounted for about 40 percent of inventories, it represented only 20 percent of total supplies distributed (figure 1).

MONTHLY INVENTORY FLUCTUATIONS

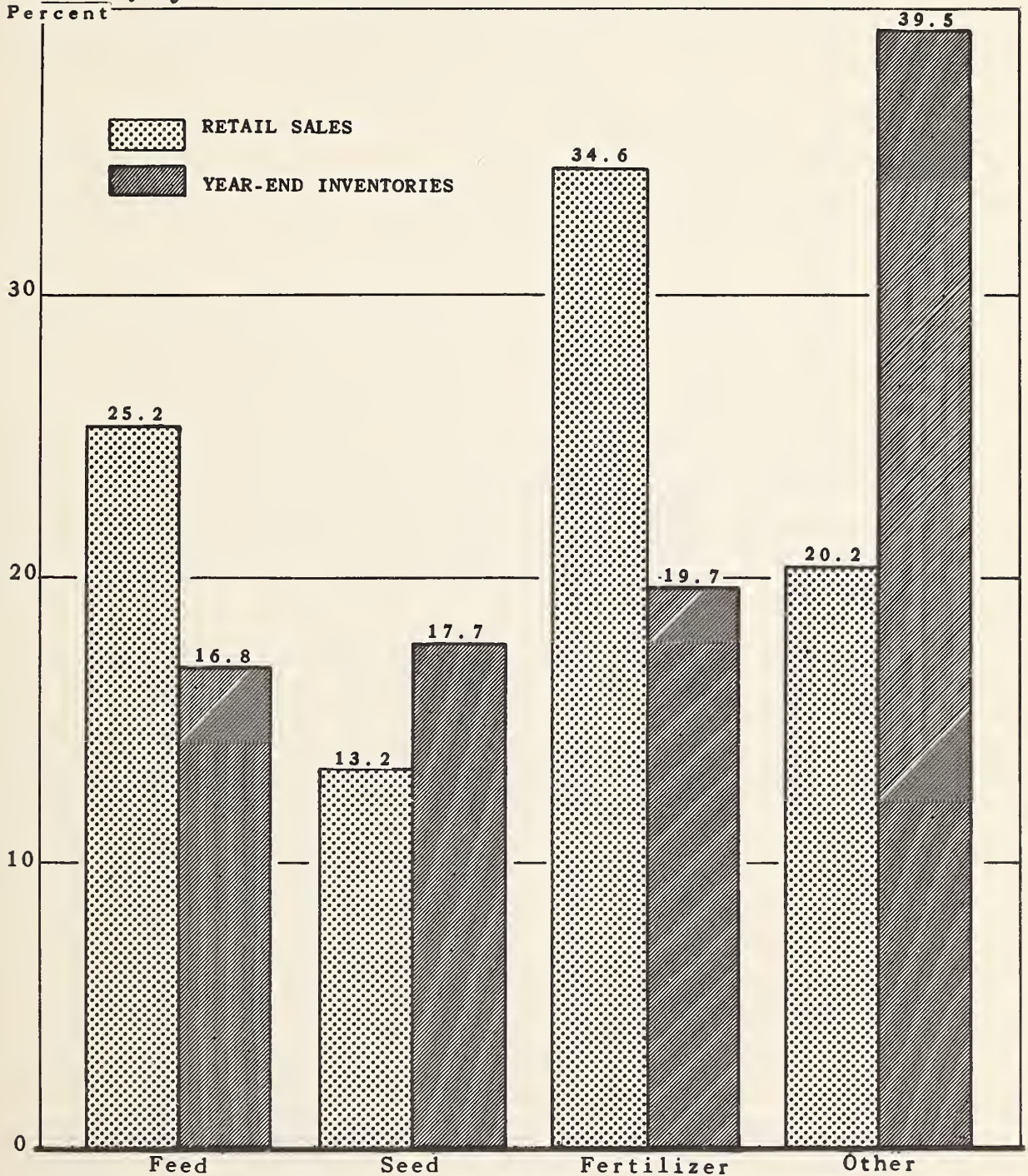
Five associations in the study had monthly inventory figures for the 1956-57 year. Their average monthly inventories were about 120 percent of their fiscal year-end inventories. Stocks of supplies were highest in February and March and were again high in August and September (table 3). The average monthly fluctuation was from a low of 82 percent to a high of 123 percent of average. In one association, inventory varied from a low of 58 percent in July to a high of 165 percent of average inventory in March.

Individual commodities of two associations followed closely the total inventory pattern in monthly fluctuations. Inventory data sufficient to show monthly commodity fluctuations were not available in six associations.

INVENTORY TURNOVER

A measure commonly used to judge inventory management is the number of times inventory is turned in a year. When turnover is 12 times a year, stock is turned once a month. At that rate, 30 days' supply of merchandise is carried in stock based on 360 days a year, or 25 days' supply based on 300 selling days a year.

FIGURE 1
Percent of Retail Sales and Year-End Farm Supply
Inventories Represented by Selected Commodity
Groups,^{1/} 1956-57



^{1/} Tennessee, Alabama, Mississippi and Arkansas.

Table 3. - Monthly inventory variation shown as a percentage of 12-month average in five local farm supply associations in the South, 1956-57 (12-month average for each association equals 100 percent).

Association : code	Percent												Range	
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Low	High
1	93	93	87	94	82	107	111	123	93	100	119	98	82	123
2	104	131	121	90	70	62	85	105	152	100	94	86	62	152
4	<u>1</u> 122	<u>1</u> /122	104	95	90	<u>1</u> /82	81	97	<u>2</u> /	87	107	113	81	122
5	117	156	165	106	85	83	58	93	107	83	66	81	58	165
8	97	111	110	94	98	81	77	143	106	107	86	90	77	143
Average	<u>107</u>	<u>123</u>	<u>117</u>	<u>96</u>	<u>85</u>	<u>83</u>	<u>82</u>	<u>112</u>	<u>114</u>	<u>95</u>	<u>94</u>	<u>94</u>	<u>82</u>	<u>123</u>

1/ Book figures.

2/ Not available.

Turnover is usually measured by dividing inventories into the cost of goods sold. This is more accurate than using sales because inventories are commonly carried at cost or near cost so that both figures have been unaffected by any markups. Also, with the year-end inventories not as high as average inventories, the best figure to divide into the cost of goods sold is monthly average inventories. Sales figures by commodities, however, were available in more associations than the cost of goods by commodities. Therefore, turnover figures discussed in this section have been based on total sales and average inventories.

Turnover was the highest in fertilizer, averaging 26 times a year, followed by feed with 19, and seed with 12 (table 4 and figure 2). "Other" commodities turned only seven times. This low turnover of other items reflects the significance of this group on inventory management. Its proportion of total sales was about 20 percent while it represented almost 40 percent of inventory.

Average turnover for the first and last years of the period was the same, based on cost of goods and year-end inventories. For individual associations, turnover decreased in three, increased in two, and remained the same in three associations.

Managers credited improvement in inventory turnover to the following practices: (1) Strict control of all stock operations; (2) caution in overbuying of new products; (3) better service to patrons on items sold; (4) discontinuance of household appliances; (5) increased sales efforts, and (6) the use of association-owned trucks to deliver items to the association and to farms.

Table 4. - Inventory turnover ^{1/}by commodity in seven farm supply cooperatives in the South, 1956-57

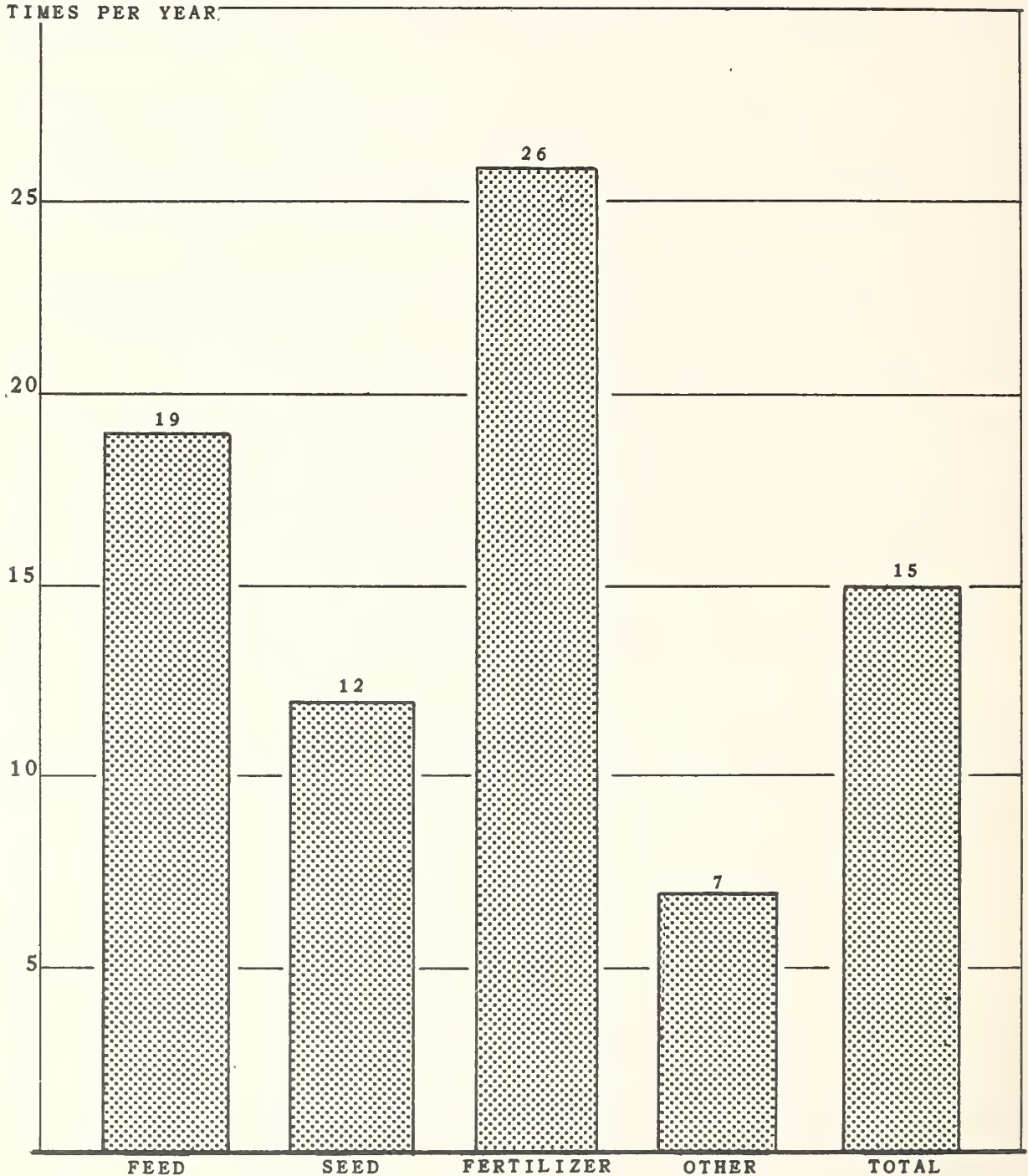
Association : code :	Commodity				
	Feed :	Seed :	Fertilizer :	Other :	Total
<u>Turnover</u>					
1	<u>2/</u>	<u>2/</u>	37	4	16
2	13	4	9	4	6
3	33	22	16	12	21
4	2	6	24	2	7
5	20	25	37	12	25
6	31	8	<u>3/</u>	4	14
7	17	7	35	10	13
Average	<u>19</u>	<u>12</u>	<u>26</u>	<u>7</u>	<u>15</u>

1/ Based on total sales and average inventories taken 5 to 12 times a year.

2/ Feed and seed combined.

3/ Not comparable.

FIGURE 2
Inventory Turnover for Selected Farm Supplies
by Four Local Co-ops,^{1/} 1956-57 Based on
Sales and Average Monthly Inventories



^{1/} Tennessee, Alabama, Mississippi and Arkansas.

INVENTORY COSTS

Rate of turnover is important in the cost of carrying inventories. A figure of 10 percent of inventory value has been used as an estimate of carrying costs. With interest on capital at 6 percent, the charge for funds used in inventory would represent more than half of estimated cost.

In many instances, the loss sustained because of inadequate capital for other purposes may be greater than an interest charge for inventory capital. Capital tied up in inventory cannot be used for something else; inactive inventory represents dead capital.

Interest on capital in inventory is only one of the costs of carrying inventory. Other costs include: (1) Loss and damage in storage; (2) obsolescence; and (3) insurance and taxes.

Based on the 10 percent estimate, inventory costs for an association with annual sales of \$100,000 would be \$140 annually for each 5 days' supply of inventory.

In terms of turnover, 5 days' supply of inventory would mean stock was turned 72 times a year; 10 days would mean a turnover of 36 times; 15 days, 24 times; 20 days, 18 times; and 30 days, a turnover of 12 times a year.

An association with a turnover of 6 times would have about a 60-day inventory on hand. The cost of this size inventory for \$100,000 of sales would be about \$1,680.

A recognition of the costs connected with low turnover should induce efforts to improve inventory operations.

In table 5, associations are arrayed on the basis of inventory turnover in 1957; the proportion of total assets in inventory is shown for each. The three associations with the lowest turnovers, averaging 9.2 times, had an average of 18 percent of their total assets in inventory. The three associations with the highest turnover, averaging 18.9 times, had 11 percent of assets in inventories. As turnover doubled, the proportion of assets in inventory was almost halved, indicating the importance of high turnover in achieving good utilization of inventory capital.

Table 5. - Inventory turnover ^{1/} and proportion of total assets in inventory in seven farm supply cooperatives for fiscal years ending 1953 and 1957

Association code	Inventory turnover		Proportion of total assets in year-end inventories	
	1957	1953	1957	1953
	Times per year		Percent	
4	8.4	6.6	14.4	18.8
8	9.3	9.0	19.3	24.5
7	10.0	10.4	20.7	20.1
6	11.1	16.7	27.1	25.6
1	13.1	26.6	15.2	11.8
3	15.8	17.2	11.6	11.5
5	27.8	8.9	6.2	18.0
Average	13.6	13.6	16.4	18.6

^{1/} Based on cost of goods sold and year-end inventories.

AREA COMPARISONS

Comparative measures of inventory operations for five areas covered in previous reports are shown in table 6. Data were not available for sales and inventories of identical commodities or groups of commodities and for inventories at the same intervals during a year. Hence the measures are not entirely comparable. Footnotes at the end of table 6 indicate some of the variations.

Table 6. - Measures of inventory operations in retail farm supply cooperatives in five areas of the United States ^{1/}

Item	Area <u>1/</u>				
	I	II	III	IV	V
	<u>Percent</u> <u>3/</u>				
<u>For 5-year period studied</u> <u>2/</u>					
Increase in farm supply sales	12	20	30	21	28
Increase in farm supply inventories	12	12	28	25	28
<u>For last year of study</u> <u>2/</u>					
Percent of total assets in inventories at end of year	18	26	20	21	16
Inventory turnovers <u>4/</u>	<u>Times per year</u> <u>3/</u>				
Feed	20	<u>5/</u>	12	13	18
Seed	8	<u>5/</u>	12	14	12
Fertilizer	23	33	4	8	26
Petroleum	23	41	15	17	<u>5/</u>
Building supplies	4	<u>5/</u>	<u>5/</u>	4	<u>5/</u>
Farm machinery	3	<u>1</u>	<u>5/</u>	2	<u>5/</u>
Tires, batteries, accessories	<u>5/</u>	4	<u>2</u>	2	<u>5/</u>
Hardware	<u>5/</u>	3	<u>5/</u>	3	<u>5/</u>
Other supplies <u>6/</u>	<u>6</u>	5	<u>2</u>	3	<u>7</u>
Total	<u>11</u>	<u>9</u>	<u>6</u>	<u>8</u>	<u>15</u>
Associations in each study	<u>8</u>	<u>9</u>	<u>20</u>	<u>23</u>	<u>8</u>

^{1/} States in each area are as follows:

Area I -- Indiana, Ohio, Michigan, and Pennsylvania.

Area II -- Washington, Oregon, Idaho, and Utah.

Area III -- Wisconsin, Minnesota, North Dakota, South Dakota, and northern Iowa.

Area IV -- Kansas, Nebraska, Iowa, Illinois and Missouri.

Area V -- Tennessee, Alabama, Mississippi, and Arkansas.

^{2/} Periods covered were: Areas I and II - fiscal years, 1952-56. Area III - calendar years, 1952-56. Areas IV and V - 1953 to 1957 fiscal years.

^{3/} Simple averages were used to give approximately equal weight to the performance of each cooperative.

^{4/} Not comparable for all areas. The basis on which turnovers were computed for individual commodities were: Area I - annual sales and average quarterly inventories; Area II - total sales and average monthly inventories for five associations; Areas III and IV - cost of goods sold and year-end inventories; and Area V - total sales and average of 5 to 12 inventories a year for 7 associations.

^{5/} Data were not available; included in "other supplies" if handled.

^{6/} Items in this group are not comparable in each area.

